



Nicolas Branowski, Renault Truck Project Manager for the new line, left, with ABB Project Manager Philippe Bridon.

Fewer robots for four times the work

When designing a new body-in-white line for truck cabs at Renault, reliability, efficiency and safety were key factors in choosing the robotic solution.

> When the Renault Truck factory at Blainville-Sur-Orne in the Normandy *department* of Northern France, decided to add an additional body-in-white truck cab manufacturing line, the choice of which robots to use was not lightly made. But when production begins in November of this year, the line will be sporting 14 brand new ABB IRB 6600 robots, 13 track-motions and 18 IRC5 robot controllers.

"We've never used ABB robots before but there are several reasons why we're going to make the switch," says Alain Condon, Body-in-White Manufacturing Manager at Renault Trucks Blainville. "ABB has a very good technical reputation and they also have a very good relationship with our parent group AB Volvo, but two of the main drivers were the complete package we're getting from ABB, and the fact that the system can be developed and reconfigured for future use," he explains.

"We wanted a supplier who could offer geographical proximity to Blainville for better service,

from installation to operation and after-sales care," says Nicolas Branowski, Project Manager for the new line. The ABB offer covers the project from conception to installation, complete with a full training package and a year's guarantee supported from its Beauchamp site, just outside Paris.

"Being able to reconfigure the system in the future for other purposes is also absolutely key to deals of this magnitude," says Branowski.

The project for the new line was agreed at the end of 2006, the dossier presented to the board in February 2007, and the go-ahead given by AB Volvo the following month. The line is currently being installed and will ramp up in September, and will be at full production by November 2008.

The new line will have five production cells. Three will be preparation cells using ABB's Module Flex technology, the first making the underbody, the second making the rear wall and header and the third making the sides of the cab. The cabs will



> FACTS

- The Blainville-Sur-Orne factory is located 10 minutes outside the Normandy city of Caen in Northern France on an 85-hectare site
- Renault Trucks Blainville is Lower Normandy's largest private employer with 2,650 employees and over 600 temporary and contract workers
- In 2007, the site produced 72,000 truck cabs for all Renault Truck models and for Volvo FE, Volvo FL, DAF and others
- Production target for 2010: 100,000 cabs

- Number of IRB 6600 robots: 14
- Number of IRC5 controllers: 18
- Number of track-motion : 13
- Cycle time: 12 minutes
- Number of tasks: 3-4
- Total cab production time: between 3.5-4 hours
- Total weekly production after ramp-up: 1,950 cabs
- Weekly production increase: 200 cabs

then move to the two remaining ABB FlexFramer cells, the first where the underbody will be completed and the second where the whole cab will be finished. Three of the cells were built by ABB at the Beauchamp site near Paris. The other two are being assembled in situ.

The current line produces 1,750 cabs a week, mainly for Renault, but also for Volvo, DAF and other truck manufacturers, but the team has been working weekends to keep production at this level. The introduction of the new line will mean that they can stop working weekends as well as increasing production to 1,950 cabs per week.

The challenge for the new line is the increased workload. "The new line will only produce a limited range of medium-duty truck cabs, so we'll only be using 14 robots compared to 72 on the existing line," says Branowski. "But each robot will be doing four times the work, with a cycle time of 12 minutes compared to three, and as the cycle time increases,

the reliability risk increases," he adds. Renault Trucks' existing robots do one or two tasks, but the new ones will do three or four.

Security was also a key consideration in the project. "The body-in-white production line uses six operators for loading per shift," says Condon. "We analyzed what they do and we defined some 93 different potential working situations, and working with an expert, we designed the new line to improve the ergonomics of these 93 situations," he explains. "Safety must always be the supreme criteria for any work space, and the ergonomics of a situation are the key vector in production security."

But because they have not used ABB robots before, there is naturally some caution among the team. "I'm yet to see the proof of the reliability of ABB products," says Condon. "I just hope the IRC5 is up to the job – the whole performance of the line depends on the controller which is why Renault spent a lot of time validating it," he explains. "It's a gamble for us, but we're playing to win." 